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Computer as a Threat or an Opportunity for Development of Children

Beata Hoffmann*

University of Warsaw, Institute of Applied Social Sciences

Abstract

The omnipresence of the media is nowadays beyond doubt. We can say that in almost every area of life we now have to deal with the presence of newer and newer means of communication that are becoming the primary source of information about human life and the world. The interest in media begins in childhood through watching cartoons and movies shown on television, played by audiovisual equipment as well as acquired from the internet. In subsequent years, the scope of usage of a computer widens, and it itself becomes a valuable asset to education, often exceeding standards of aids received by conventional methods. An extremely important issue is the use of computer technology in expanding opportunities to uniform impact on different receptors. The learning process is being enhanced with new, hard to find in traditional teaching, means of visualization of encountered objects, for example by showing their dynamics as well as by revealing essential elements of the object. The use of the computer enables to widen the scope of exercises which develop manual dexterity and through the introduction of playful elements, makes them more attractive to children. The support of school lessons by the computer technology allows to run classes with a larger group of students. Also, learning at home with the computer is more attractive and significantly improves educational outcomes.

Despite the undoubted benefits of using a computer, you cannot forget about many dangers, among which a risk of addiction, inability to function in the real world or entering into risky relations are becoming more and more common. Importantly, these dangers refer to a greater degree to children as their ability to control their behavior has not yet been developed.

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* Corresponding author. Tel.: +48-668.015.660.

E-mail address: hoffmann.beata@gmail.com.

1. Introduction

As noted by Anthony Giddens, "many cultural traits reflect broader patterns of development of the society". [1] Most of the devices that belong in our culture to everyday life - cars, telephones, computers, running water, electric light – were created by historically a very recent innovation. [1] Many countries around the world have found themselves at the stage of transition from industrial to information society at the basis of development of which was one of the most fascinating inventions of all times - a computer. [2]

2. Objectives

The computer and the Internet are the most commonly used technological achievements. Their importance in the development of young people is undeniable. This equipment may, however, be the source of problems of the child as well as the chance of his/ her comprehensive development.

Considerations presented below raise the question: whether children in the face of such widespread media provider of information like a computer must be exposed to the negative effects of its impact or through a computer they can move on and play?

3. Characteristics of the problem

3.1. The child and the computer

The computer has passed through many technological and functional transformations, becoming today a typical "multi-purpose tool" that serves both work and entertainment, the equipment willingly used by people of different age, with different backgrounds and different incomes.

The attractiveness of the computer/ Internet comes from multiple factors: speed, versatility and frequently reliability. Their usefulness is beyond doubt, both in the sphere of professional education as well as in the area of entertainment and relaxation.

The role of the mass media continues to grow, not only in the world of adults, but also children and young people. Interest in some of the media is shaped in early childhood and a computer with access to the Internet seems to play a particular role in everyday life of a young man. How to use a computer is closely correlated with the age of a child. And so, to the second year of age, a child primarily manipulates at keyboard or joystick, his/ her concentration on images is elusive and the understanding of what he/ she sees, difficult to verify. Upon completion of 2 - 3 years - a child begins to please what he/ she sees, but is not yet able to understand the content of what appears on the screen, all the more the relationship between one and the other scene. The effects of playing with a computer mouse appear to be random. After finishing 6 years of age, a child is interested in messages happening on a computer screen, often understands a relationship between the individual scenes and reads a hidden meaning. Between 9 and 12 years of age, fascination of computer games and Internet far prevails an interest in television programs, even those that a child has willingly watched earlier. Around this time, within the classes in school, children become familiar with the educational qualities of a computer. They learn its more versatile use and application. In subsequent years the computer/ Internet is becoming a rich source of information and the network - area of human relationships and, more generally – social contacts. [3]

A computer together with the Internet, graphics, educational programs and communicators in which education and entertainment are combined, can be an interesting opportunity to motivate children to learn the new contents, acquiring knowledge. [4]

3.2. A computer as a modern means of teaching

A computer as a modern means of teaching, offers many educational opportunities and working with it far exceeds standards of assistance received by traditional methods. It can be successfully used at various stages of learning, including the level of integrated early childhood education.

Interesting graphic - sound effects as well as often characters themselves, coming from books and movies already known to a child, cause that working with a computer becomes learning through playing. Due to right

programs and technical capabilities of the computer, young students are not just passive observers (as it is even during a film projection in a class) but also co-participants of the lesson.

The learning process is also enhanced with a new, hard to find in traditional teaching, measures of illustration of cognizable objects, for example by showing their growth as well as exposing essential elements of the object. [5] Use of a computer enables development of manual skills, creative thinking and imagination, encourages to develop a child's own initiative. Thanks to computers you can quickly check the knowledge acquired by students also in a way of playing. [6]

As Leonard. A. Anetta noticed, games have accompanied a man for centuries [7]. For centuries they also have supported his intellectual and social development. Since computer games are often a child's first contact with the computing technology, the right choice of them may be useful in development of his/ her cognitive activity. Research on use of these games in the process of education, indicate that computer games stimulate the child's mental process, tend to think basing on matching [8], have a positive effect on hypothetical thinking, logical analysis [9], enhance eye-hand coordination. [8] Computer games also have the advantage of being based on a narrative structure which is easier to remember than it is with books. Importantly, they allow the immediate reward in the form of evaluation of a player's performance. [3] This fact is especially important for children who if received fast, positive review, want to repeat the situation, supporting the process of their learning.

Computers are used in various areas of education. And so, in the field of humanistic education, computer programs can effectively stimulate interest in learning to read and write. Much easier is here to learn letters and rules of spelling. Computer programs also allow you to conduct dictations and their proofreading done by the students themselves. Then the multimedia fairies affecting the imagination of children are extremely useful in improving skills of reading with comprehension, in development of children's oral declamation and enrichment of vocabulary. A computer is widely used in teaching a foreign language and history as well, where many facts and historical events are translated into interesting games and applications of a nature of competition. Multimedia computer can also develop imagination and musical memory, hearing and sense of rhythm. It allows students to familiarize themselves with the sound of different instruments and create their own melodies. [10], [11].

The computer science education helps to improve the accounting technique in the scope of addition, subtraction, multiplication and division as well as develops independent thinking. Of course, older children and young people have the opportunity to use it during the lesson of physics, chemistry, geography and biology.

Learning at home with use of a computer is also more attractive for children and what follows - may raise educational outcomes. Through interactive classes it is possible to develop comprehensive skills: creativity, concentration and cognitive abilities.

As is emphasized in the literature, the role of a computer is not limited to use in education but it is also used in various areas of upbringing. Working with a computer teaches perseverance, requires self-determination. In the case of group activities, it learns cooperation with peers and team responsibility.

Appropriate computer software also allows its use for diagnostic, preventive and therapeutic goals. Wide and varied graphics capabilities can significantly enhance the stimulation of psychomotor development of children and the ability to individualize a sort of aid for a given child. The use of a computer clearly activates and emboldens a child, what in combination with properly matched exercises, in terms of their speed and degree of difficulty, allows each student to succeed. Such assurance of a child's psychological comfort, contributes to positive motivation during learning and better concentration, memory and thinking and consequently increase the effectiveness of the therapy. [5] By means of the computer/ Internet, possible and much easier can be distance learning which may be especially useful for children with health problems.

Taking into account the numerous benefits of using the computer at the level of integrated early childhood education, there are no significant obstacles against development of competence in information technology that begins in the early years of a child's education. In the early school age there is a strong need for fun combined with a creative activity which is an important component of children's mental development. [12] The use of electronic media is therefore a necessary element of the contemporary school.

Of course you should take into account the fact that too frequent and prolonged use of a computer can get into a child a pattern of conduct leading to the automatic execution of tasks and significantly reduce his/ her cognitive abilities and the ability to think creatively. It is also necessary to develop children's skills in critical look at web content.

3.3. The main risks associated with use and abuse of a computer

The fact of the widespread use of the computer/ Internet by children and young people raises common questions about the associated risks. Despite the undoubted benefits of using the computer / Internet, we cannot forget about many dangers associated with it.

In the area of education, these risks relate primarily to stimulation of the mechanical reflex of acquiring news, replacement of own studies by ready-made elaborations, use of summaries, overviews, often uncritical copying of materials published on the Internet.

In the psychosocial - educational sphere it is worthy to note the threat of addiction, inability to function in the real world or entering into risky relationships. Importantly, these dangers relate particularly to children since their ability to control their own behavior has not been generated yet. Although educational and relaxing aspects of many computer tales and stories remain unchallenged, you should keep in mind that among the preferably imitated characters are both positive and negative protagonists. There are these negative characters portrayed in a positive light, make children believe that they should proceed this way, thus affecting the development of antisocial behavior in children. The lack of shaped system of values and critical thinking make that messages carried by the movies are being understood literally, in an emotional way. Especially it is worth to note the contents of aggression and violence nature where aggression is actually the essence of the game. [13] In the opinion of many psychologists, the impact of violence taking place in some video games is much stronger than its impact on television. Here a player is not only watching violence, but he makes it himself through participating in the game. As a result of a multiple repetition of acts of aggression and destruction, a young man is becoming impervious to violence. Therefore, the proper selection of media messages being received by children, is very important.

Excessive hanging out on the Internet by children and young people, significantly reduces social contacts with a group of peers and interferes with a process of socialization. Virtual friends which become in childhood heroes of movies or video games, are often the only characters forming the child's social environment. M. Sajkowska emphasizes that children have a strong need to have a friend. The real world requires a certain amount of compromise and some conformity in building relationships with their peers. Expectations towards them tend to be excessive and idealistic and failures in relationships are experienced deeply and hurt painfully. The gap resulting from failures in the real world can fill a virtual friend. [14] This situation, although apparently very beneficial, in the future may lead to environmentally-peer maladjustment of a child. In subsequent years, the place of fictional virtual characters probably will be taken by real characters which however also belong to the virtual world, which a young person will be contacted with via the Web.

In such a case, a computer contributes to disturbing or even destroying personal relationships, withdrawal from participation in the outside world and loss of the ability to direct contact. Time spent in solitude increases comparing to time spending in social groups, in fact giving a rise to the sense of loneliness. To deal with it, we increasingly use the computer / Internet, trying to gain a sense of participation in social life. However, we do not notice superficiality and fragility of these contacts.

Among other consequences of constant use of the computer, you may include: mood swings, sleep disturbances, restlessness, anxiety, irritability, impaired concentration, attention and memory, neglecting of duties, disorders of an identity, narrow interests, depletion of language or conflicts with relatives. Spending every spare moment with the computer, is held at the expense of time devoting for learning or physical development. Prolonged exposure in front of the computer's monitor may cause sometimes problems with posture, gain of weight [8] and intense light stimuli coming from the screen can, especially in younger children, disrupt the

smooth functioning of the brain and may contribute to the development of vision defects. [15]. Another concern is the syndrome of being in two places at once. This problem particularly affects children who while using a computer do other activities such as eating, talking with the family, watching TV, participating only partly in all these and not reigning in fact over these activities.

Another threat could be dangerous acquaintances concluded via the Internet and succumbing to a dangerous manipulation (children may be the victims of pedophilia, child pornography and sects). [16]

Please also note that if you frequently use the computer / Internet, it can lead to addiction. The risk of computer dependency affects more and more younger people, basically children and to make the matter worse, this process begins almost imperceptibly. Since the excessive use of a computer is one of the most common problems, I allow myself to devote to it a little more space. The process of creating addiction, as in adults, develops in children and adolescents in phase. The initial period is the fascination of the computer and spending a lot of time with it. This phase does not raise any concern of parents, on the contrary it is often accompanied by their approval and appreciation for the technical skills of a child. Gradually it comes to extend the time spent at the computer and thinking about it accompanies the child also during its other activities. It quickly reaches the limit or total permanent abandonment of other activities, direct games or contacts with friends for the benefit of the time spent on the computer. During this time, parents significantly lose contact with the child. Such situation usually results in their response but any attempt to reduce or even isolate the child from the computer is associated with bursts of anger and aggression and discontinuance of a computer activity is accompanied by the withdrawal syndrome which is a symptom of addiction.

In many cases, parents have a problem with determining the amount of time allocated to being in front of the monitor of the computer. In this case, a list compiled by Mark Griffiths, containing questions regarding the use of the computer by a child, may be really useful:

Does the child...

- play videogames almost every day?
- often play videogames for long periods (over 3 to 4 hours at a time)?
- play videogames for excitement or 'buzz'?
- get restless, irritable, and moody if they can't play videogames?
- sacrifice social and sporting activities to play videogames?
- play videogames instead of doing their homework?
- try to cut down their videogame playing but can't?

If a parent answers yes to more than four questions, it may suggest that a child uses a computer in a problematical manner. [17]

Usually there are a lot of factors that lay at the root of the abuse of the computer / Internet. One of the most common reasons is a deficit of constructive strategies for dealing with stress. In the case of children and adolescents, the causes of 'escape' into the world of the computer / Internet may be at particular conflicts in the family, rejection by a group of peers and the associated with it, low self-esteem, as well as loneliness and school failures.

3.4. Help

For children and young people who pathologically use the computer, as in the case of adults, the various forms of assistance have been introduced. Most of them are based on cognitive-behavioral therapy (CBT), with particular emphasis on changes in behavior, development of interests other than the computer, and most of all to learn constructive use of the computer and replace the pathological behavior by constructive patterns. [18]

As in today's world the use of the computer technology is a part of life for almost everyone, the pursuit of its total elimination of the lives of children and young people is not possible. Instead, a much more appropriate is to prepare for conscious use of the computer.

In determining appropriate limits, the following practical guidance contained in the literature may be helpful:

- until completion of primary school, children do not need their own computer in their rooms (this way parents can better monitor use of the family's computer),
- there are no rigid age limits on use of the computer, even though it is better to avoid using it by children under 4 years of age,
- by selecting programs and games for children parents should pay attention to the specified proposal appropriate for the age,
- it is important to determine the time frame, so that the time spent at the computer was adapted to the age and abilities
- in order to reduce the time spent on playing and learning you may set the alarm clock as an acoustic signal,
- younger siblings should not automatically have the same rights to use electronic media as the older ones,
- stay in touch with parents of your child's friends to secure yourself against the situation in which the child is sitting at the computer at home for the agreed hour and for the next few hours at his colleague's houses,
- create an alternative to the computer: developing different interests of children, such as music, reading, sports, board games, etc.
- from the example of parents, older siblings, circle of peers often depends on whether the child's computer is only a machine for gaming or if it is used as a means of communication or a means of facilitating learning. [19]

During use of the computer you should remind children to take a break and make them aware of the scale of dangers carried by the excessive contact with the computer. Young users should be encouraged to moderation and prudence, as well as alternative forms of leisure activities. Parents, relatives and teachers should pay attention to both the time spent by the child in front of the computer, as well as the content inherent in both games and the Internet.

In particular, parents and attendants are particularly helpful in choosing the right but also attractive games and net services for the child. The important role is attributed to the conversation with children about the contents of the games [20] - so that they can understand the difference between the imaginary and the real world. No less important is to warn against dangers that may threaten from those who seek their future victims in network.

4. Conclusion

There is no doubt, the computer is not only the most popular but also the most important tool. What will be the consequences of using it by children depends primarily on the child's closest social environment.

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